

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : **2000-286478**

(43)Date of publication of application : **13.10.2000**

(51)Int.Cl.

H01L 43/08

G11B 5/39

H01F 10/12

(21)Application number : **11-092034**

(71)Applicant : **TOSHIBA CORP**

(22)Date of filing : **31.03.1999**

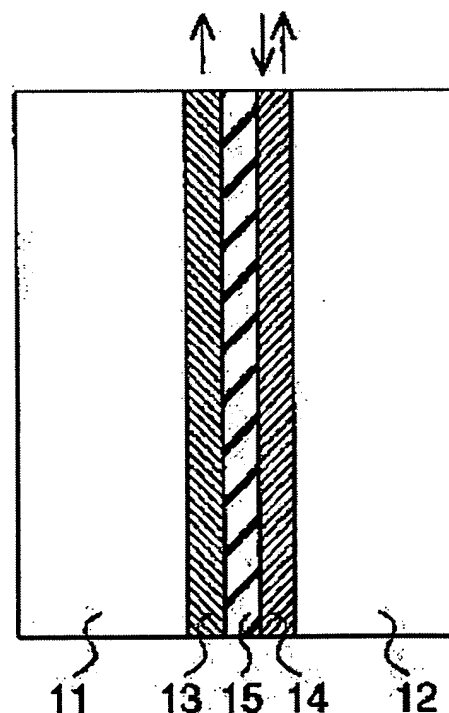
(72)Inventor : **MIZUSHIMA KOICHI  
SATO TOSHIE**

## (54) MAGNETIC TUNNEL JUNCTION ELEMENT

(57)Abstract:

**PROBLEM TO BE SOLVED:** To reduce the voltage dependence of a magnetic tunnel junction element and increase the MR ratio of the element.

**SOLUTION:** A magnetic tunnel junction element is provided with a first magnetic electrode, an insulating layer 15 provided on the electrode, and a second magnetic electrode provided on the insulating layer 15. The second magnetic electrode is constituted in a laminated structure, composed of a first thin film 13 containing iron, cobalt, or nickel and having a thickness of 5 nm or smaller and a second thin film containing a noble metal, copper, or chromium.



## LEGAL STATUS

[Date of request for examination]

06.03.2001

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of